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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/840,878 04/25/01 IMAI

T 1417-348

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IM52/0913

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EXAMINER

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1100 NORTH GLEBE ROAD  
ARLINGTON VA 22201

JOHNSON, E

ART UNIT	PAPER NUMBER
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1754

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DATE MAILED:

09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/840,878	IMAI ET AL.
	Examiner Edward M. Johnson	Art Unit 1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 August 2001.

2a) This action is FINAL.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-31 is/are pending in the application.

4a) Of the above claim(s) 7-15,22-28,30 and 31 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 2-5,16-21 and 29 is/are rejected.

7) Claim(s) 6 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> .	6) <input type="checkbox"/> Other: _____

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**DETAILED ACTION**

***Election/Restrictions***

Applicant's election of claims 7-15, 22-28, and 30-31 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

***Claim Objections***

1. Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must list the claims it depends from in the alternative. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-5, 16-21, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-5 depend from a canceled claim.

Claims 2-5, 16-21, and 29 appear to contain use limitations and it is unclear how they limit an iron compound catalyst as claimed because they do not appear to limit the catalyst itself but rather a process for using the catalyst.

Claim 2, "the phosphorus content", "the sulfur content", and "the sodium content" lack antecedent basis.

Claim 3, line 2, "the catalytic activity" lacks antecedent basis.

Claim 3, lines 6-7, "are instantaneously contacted" appears to be a use limitation and/or grammatically incorrect.

Claim 4, "said iron oxide particles" and "said iron oxide hydroxide particles or mixed particles thereof" lack antecedent basis.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2-5, 16-21, and 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Iglesia et al. 5,036,032.

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Regarding claim 16, Iglesia '032 discloses catalyst metals including iron (see column 4, lines 20-21) supported as inorganic refractory oxides (see column 4, lines 38-44) comprising a diameter of 130 Angstroms (see column 9, lines 44-45), a surface area of 50-500 m<sup>2</sup>/g (see column 4, lines 50-51), and a site density of 0.064 (see Table A), 60-65% CO conversion (see column 10, line 45) and calcining at above 500 degrees at 1 degree per minute for a sufficient period of time (see column 6, lines 54-56). Iglesia does not disclose any presence of phosphorus, sulfur, or sodium (see Example 1). Units of measurement, methods of taking these measurements, and the use of the catalyst, were not themselves given patentable weight.

Regarding claims 2, 5, 17, and 19-21 Iglesia '032 discloses an iron catalyst (see column 4, lines 19-22) comprising a diameter of 130 Angstroms (see column 9, lines 44-45), a surface area of 50-500 m<sup>2</sup>/g (see column 4, lines 50-51), and a site density of 0.064 (see Table A). Iglesia discloses no presence of phosphorus, sulfur, or sodium (see Example 1).

Regarding claims 3 and 18, Iglesia '032 discloses 60-65% CO conversion (see column 10, line 45) and calcining at above 500 degrees for 1 degree per minute for a sufficient period of time (see column 6, lines 54-56), and the use of the catalyst was not given patentable weight.

Regarding claim 4, Iglesia '032 discloses catalyst metals including iron (see column 4, lines 20-21) supported as inorganic refractory oxides (see column 4, lines 38-44).

In the event any differences can be shown for the product of the above claims, as opposed to the product taught by Iglesia '032, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results; see also In re Thorpe, 227 USPQ 964 (Fed.Cir. 1985).

**Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ward 5,036,566 discloses an iron compound catalyst (see abstract) comprising a particle size of 500 nm (see column 1, line 28), a BET surface area of 16.8 square meters per gram, sodium content less than below 0.2% (see column 3, lines 36-38), no sulfur or phosphorus is disclosed (see Example 1); Jennings 4,668,658 discloses an iron catalyst comprising a calcined, pelleted iron oxide with a high surface area and a density of 2.6 g/cc (see abstract); Mauldin et al. 4,992,406 discloses a Fischer-Tropsh catalyst comprising iron and a titania binder.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M.

Johnson whose telephone number is 703-305-0216. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EMJ  
September 6, 2001

  
STEVEN P. GRIFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700